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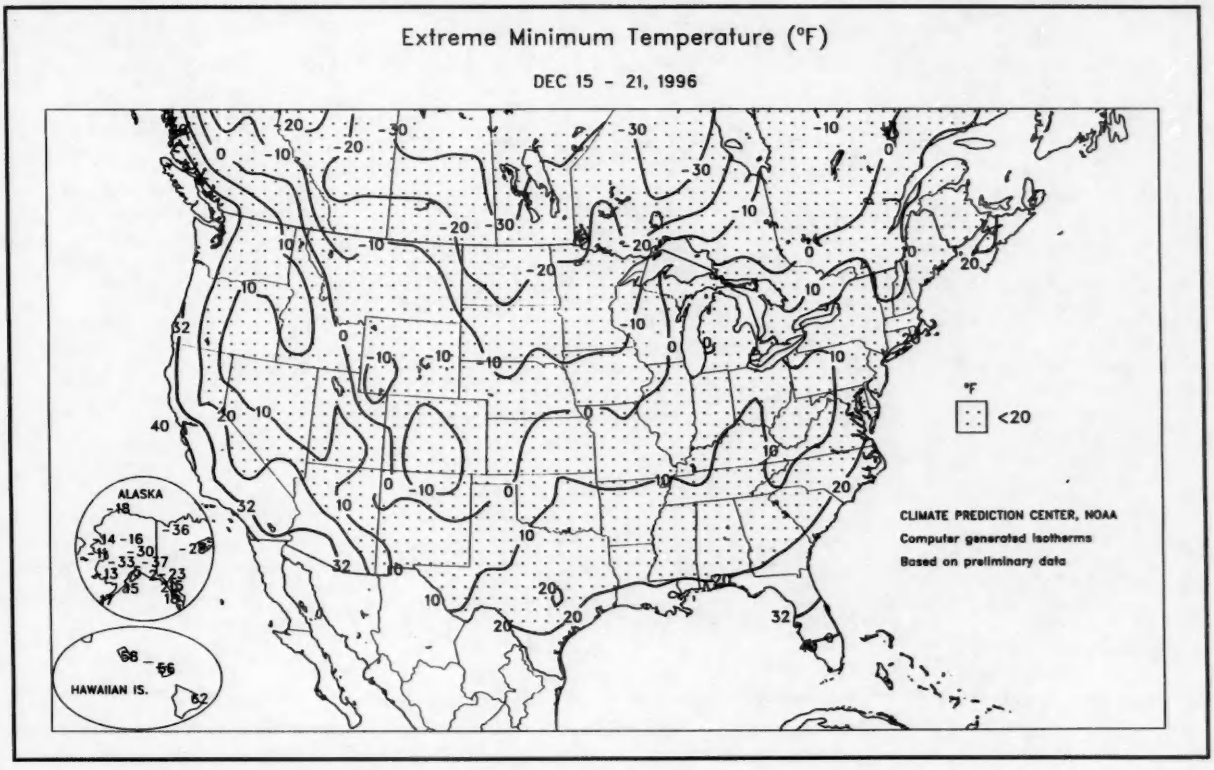
WEEKLY WEATHER AND CROP BULLETIN

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service

U.S. DEPARTMENT OF AGRICULTURE
National Agricultural Statistics Service
and World Agricultural Outlook Board



HIGHLIGHTS

December 15 - 21, 1996

Very cold air spilled southward through the **Plains** and to the **Gulf Coast,** delivering a hard freeze to **Louisiana's** sugarcane areas and sub-freezing temperatures to **south Texas'** sugarcane- and citrus-producing region. In **Florida,** only northernmost citrus and vegetable areas were exposed to a minor freeze. Meanwhile, the **Plains'** winter wheat experienced varying degrees of stress, due to patchy snow cover, as low temperatures ranged from -10°F to 5°F. The high-pressure system responsible for the week-long chill drifted to the **East Coast** by Saturday, replaced by a renewed barrage of Pacific storminess. Extremely heavy snow buried parts of the **West** at week's end.

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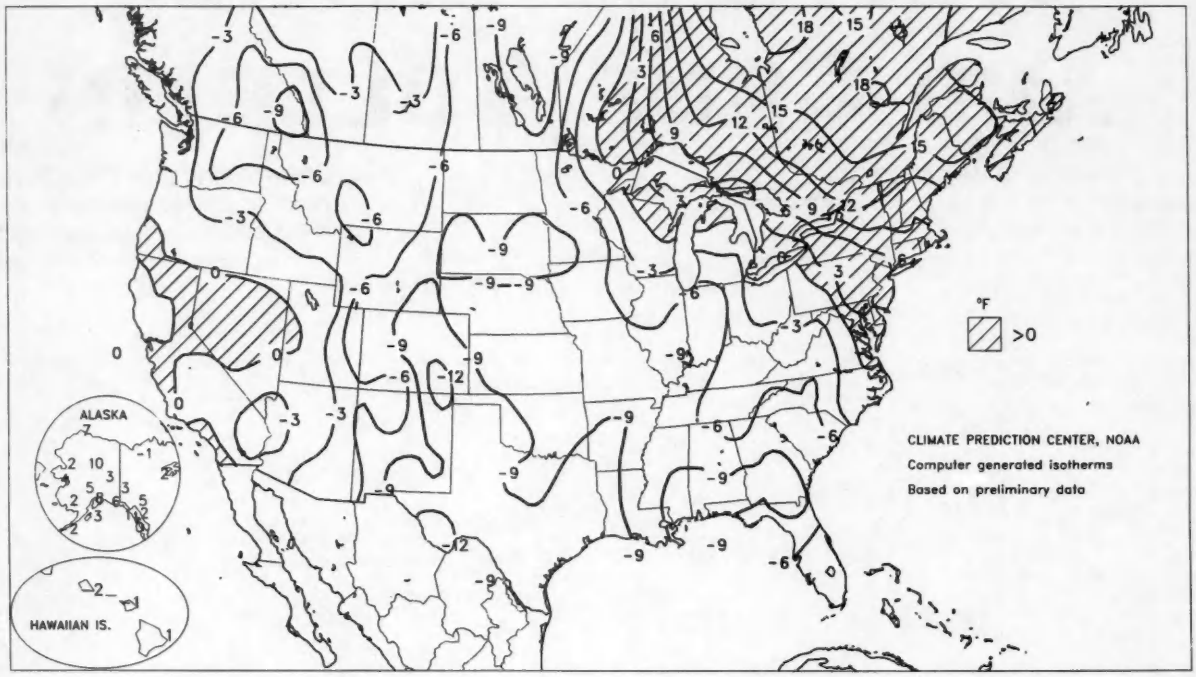
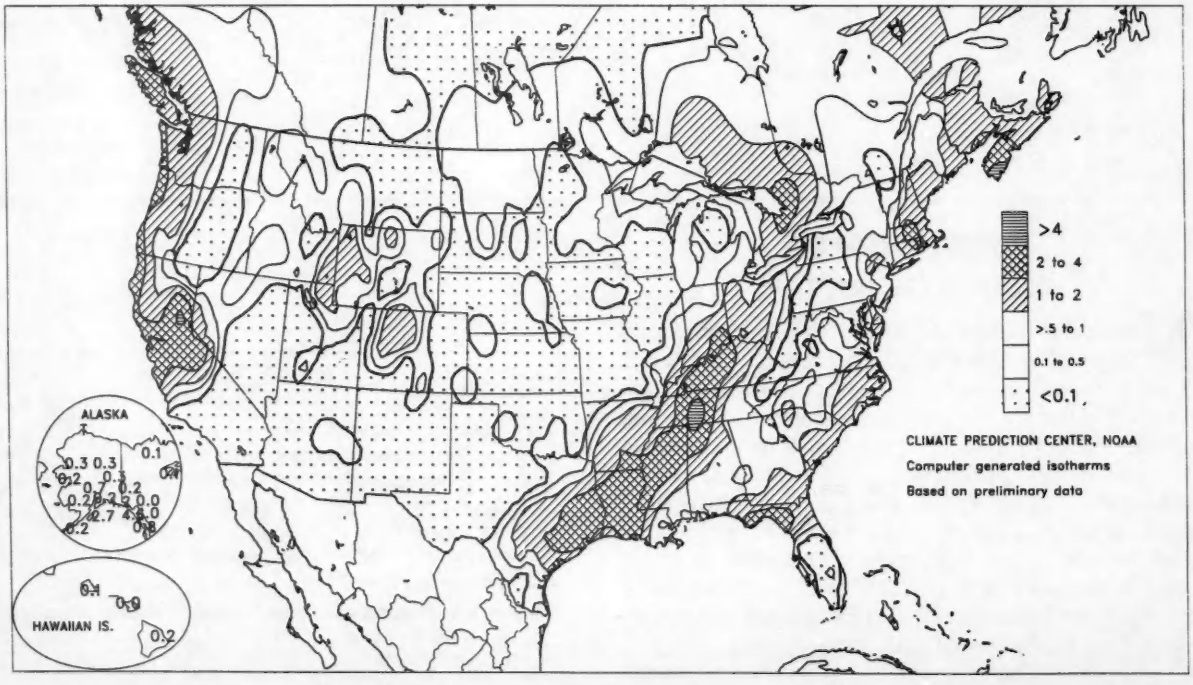
Departure of Average Temperature from Normal (°F)

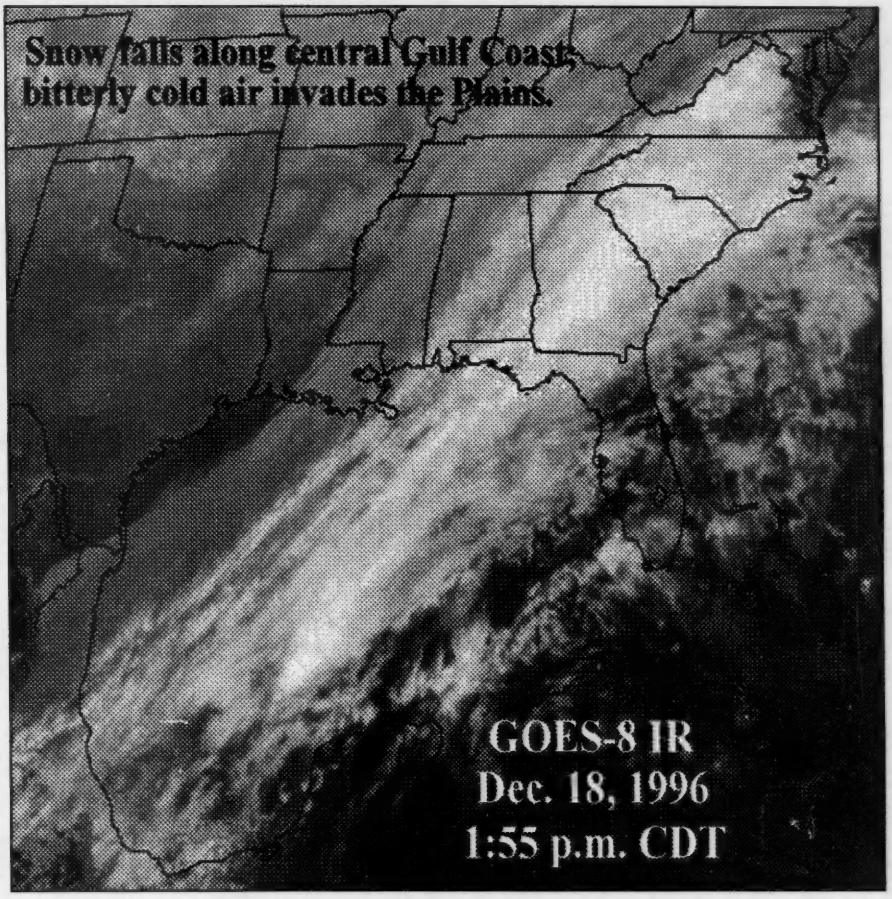
DEC 15 - 21, 1996



Total Precipitation (Inches)

DEC 15 - 21, 1996





(Continued from front cover)
Early in the week, snow and wind chills below -50°F plagued the **northern Plains**. All of **North Dakota** was placed under a blizzard warning on Tuesday, the first such occurrence since December 24-25, 1983. Storm-total reached 8.3 inches in **Fargo, ND**, while winds gusted to 61 mph in **Rapid City, SD**. Farther south, strong winds twice buffeted **southern California**. On **Laguna Peak**, separate Santa Ana events produced gusts to 76 mph on Sunday and 66 mph on Tuesday. Meanwhile, rain and wet snow fell in the **East**. On December 15-16, a narrow band of heavy snow fell from the **Bootheel of Missouri** to **eastern Michigan**, boosting the weekly total to 8.0 inches in **Indianapolis, IN**. Rainfall topped 2 inches in a strip from **eastern Texas** to the **lower Ohio Valley**, including **Galveston, TX** and **Bowling Green, KY**. Snow returned to the **East** on December 18-19, falling as far south as the **Gulf Coast** from **eastern Louisiana** to **western Florida**. Totals reached 2.0 inches in **Montgomery, AL** and **Greenville-Spartanburg, SC**. Farther north, 6.0 inches blanketed **Burlington, VT**. Heavy accumulations of lake-effect snow occurred after midweek. In the **Lake Superior** snow belt, **Marquette, MI** received 25.1 inches during the week; more than 30 inches fell in isolated spots downwind of **Lakes Erie and Ontario**.

Cold air resulted in about 50 daily-record lows from the **central and southern Plains** to the **Southeast** from December 17-21. On Wednesday, lows in **Colorado** plunged to -11°F in **Colorado Springs** and -19°F in **Pueblo**. A day later, readings in **western Kansas** dipped to -8°F in **Garden City** and -9°F (not a record) in **Goodland**. Farther south, a minimum of 21°F in **Corpus Christi** was their lowest since December 22, 1989. Lows in **Texas' Rio Grande Valley** fell to 28°F in **McAllen** and 23°F in **Rio Grande City**. **Brownsville's** low of 29°F marked their first such reading since December 23, 1990. **Phoenix, AZ** (34°F) and **Midland, TX** (10°F) also withstood their greatest onslaught of cold weather in nearly 6 years. In **California's San Joaquin Valley, Bakersfield's** low bottomed out at 32°F on December 19. Farther east, highs failed to reach the freezing mark on Thursday as far south as **Montgomery, AL** (31°F). The next morning, daily-record lows in **Louisiana** included 18°F in **Baton Rouge** and 21°F in **Lake Charles**. In **Florida**, both **Tampa** and **Orlando** recorded 34°F. Friday's highs in **Florida** struggled to 44°F in **Tampa** and 58°F in **Key West**. Daily records on Saturday included lows of 7°F at both **Asheville, NC** and **Bristol, TN**. In contrast, **Portland, ME** posted its warmest December 1-20 on record (8.2°F above normal).

Toward week's end, heavy precipitation overspread the **West**. In **Boise, ID**, 9.8 inches of snow fell on December 20-21, their fifth-heaviest 24-hour event on record and greatest since February 14-15, 1949. Another 15.2 inches fell in **Kalispell, MT**, including 10.2 inches on Saturday, boosting their monthly total to 23.4 inches and seasonal amount to 73.2 inches. After a 1-week lull, **northern California** again became the focus of heavy rain and snow. At **Blue Canyon**, a 6.22-inch liquid equivalent fell (as snow) in 48 hours on December 20-22, raising their monthly total to 26.10 inches. In the **central Sierra Nevada**, 24-hour snowfall rates topped 3 feet on December 20-21 (**Incline Village, NV** received 40 inches), and storm totals reached 4 to 8 feet. By Saturday night, heavy snow spread toward the **central Rockies**.

National Weather Data for Selected Cities

Weather Data for the Week Ending December 21, 1996

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.06 INCH OR MORE
AL	BIRMINGHAM	46	28	65	14	37	-7	0.60	-0.57	0.60	1.66	49	61.11	115	80	48	0	5	1	1
	MOBILE	52	31	71	19	41	-11	0.66	-0.55	0.33	3.59	100	59.77	96	89	52	0	4	2	0
	MONTGOMERY	48	28	67	16	38	-9	0.75	-0.44	0.45	3.35	97	62.22	116	87	51	0	4	2	0
AK	ANCHORAGE	29	19	36	5	24	8	0.18	-0.07	0.18	0.23	31	14.45	93	86	70	0	7	1	0
	BARROW	3	-12	20	-18	-5	7	0.01	-0.02	0.01	0.03	37	3.51	82	84	78	0	7	1	0
	FAIRBANKS	5	-12	14	-30	-4	3	0.26	0.07	0.09	0.46	79	11.40	107	82	75	0	7	3	0
	JUNEAU	33	25	39	15	29	2	–	–	–	–	–	–	–	92	75	0	5	-	-
	KODIAK	38	29	43	15	33	3	2.72	1.16	2.23	6.30	139	55.12	84	82	65	0	5	4	1
	NOME	18	2	32	-11	10	4	0.21	0.02	0.08	0.57	98	16.24	111	92	70	0	7	4	0
AZ	PHOENIX	63	39	69	34	51	-2	0.00	-0.22	0.00	0.00	0	4.27	58	27	10	0	0	0	0
	PRESCOTT	49	20	59	14	34	–	0.00	-0.36	0.00	0.24	22	7.22	38	70	22	0	6	0	0
	TUCSON	62	31	73	26	47	-5	0.00	-0.25	0.00	0.00	0	10.48	80	34	9	0	4	0	0
	YUMA	66	44	71	38	55	-1	0.00	-0.11	0.00	0.00	0	0.93	31	27	15	0	0	0	0
AR	FORT SMITH	41	23	61	13	32	-7	0.46	-0.20	0.46	1.37	63	56.54	141	83	55	0	6	1	0
	LITTLE ROCK	–	–	–	–	–	–	1.34	0.29	–	2.05	61	49.90	104	–	–	-	-	-	-
CA	BAKERSFIELD	53	37	63	32	45	-2	0.00	-0.14	0.00	0.82	200	7.65	139	99	58	0	2	0	0
	EUREKA	54	37	58	35	46	-2	2.51	1.16	1.33	14.56	353	53.86	150	92	48	0	0	2	2
	FRESNO	49	39	56	36	44	-1	0.04	-0.26	0.03	2.47	266	14.47	143	99	67	0	0	2	0
	LOS ANGELES	69	47	76	45	58	1	0.00	-0.37	0.00	3.01	278	15.04	131	63	25	0	0	0	0
	REDDING	57	37	68	27	47	3	0.46	-0.78	0.28	4.97	135	37.75	119	76	44	0	2	2	0
	SACRAMENTO	51	38	64	36	45	0	1.38	0.82	–	3.24	–	21.76	131	100	69	0	0	-	-
	SAN DIEGO	69	48	78	43	57	0	0.00	-0.36	0.00	0.45	42	7.00	74	73	29	0	0	0	0
	SAN FRANCISCO	57	45	63	41	51	2	1.64	0.94	1.62	5.11	256	26.75	144	97	61	0	0	3	1
CO	DENVER	32	5	45	-8	18	-12	0.05	-0.09	0.05	0.05	11	8.11	53	81	35	0	7	1	0
	GRAND JUNCTION	31	14	48	2	22	-7	0.00	-0.15	0.00	0.10	21	9.42	93	69	32	0	7	0	0
	PUEBLO	34	2	51	-19	18	-12	0.22	0.14	0.15	0.27	90	13.07	118	81	33	0	7	2	0
CT	BRIDGEPORT	43	34	55	20	39	5	0.90	0.12	0.46	5.58	232	56.31	136	92	69	0	3	4	0
	HARTFORD	43	31	56	17	37	9	1.13	0.25	0.76	4.92	183	54.08	126	91	72	0	3	4	1
DC	WASHINGTON	45	33	54	20	39	1	0.31	-0.39	0.15	5.12	239	50.63	134	86	67	0	3	3	0
FL	PANAMA CITY	55	38	70	28	46	-6	–	–	–	–	–	–	–	85	50	0	3	-	-
	DAYTONA BEACH	65	44	76	32	55	-5	0.00	-0.58	0.00	1.91	110	60.41	128	94	52	0	1	0	0
	JACKSONVILLE	58	37	69	25	47	-11	1.58	0.93	0.79	3.23	168	56.11	115	94	58	0	3	3	2
	KEY WEST	73	63	80	53	68	-3	0.16	-0.28	0.12	1.37	99	38.70	99	81	62	0	0	2	0
	MIAMI	74	55	81	43	64	-4	0.11	-0.30	0.10	0.93	74	55.06	99	84	52	0	0	2	0
	ORLANDO	67	45	77	34	56	-5	0.09	-0.39	0.04	2.14	147	56.36	119	91	54	0	0	2	0
	TALLAHASSEE	56	32	68	21	43	-9	1.64	0.48	1.19	5.93	174	53.53	83	92	48	0	3	4	1
	TAMPA	66	47	75	34	56	-5	0.03	-0.47	0.03	2.12	145	45.98	108	83	58	0	0	1	0
	WEST PALM BEACH	73	62	79	41	62	-6	0.62	0.02	0.47	0.85	55	39.12	67	93	53	0	0	3	0
GA	ATLANTA	47	30	60	18	38	-5	0.56	-0.43	0.28	2.26	78	42.62	96	84	45	0	3	3	0
	AUGUSTA	51	27	65	14	39	-7	0.58	-0.21	0.56	1.91	86	35.16	81	92	43	0	5	2	1
	MACON	49	27	62	16	38	-10	0.72	-0.29	0.57	3.03	106	36.20	84	94	45	0	5	2	1
	SAVANNAH	55	33	69	21	44	-7	0.90	0.21	0.69	2.71	140	32.66	88	95	51	0	3	2	1
HI	HILO	80	67	83	62	73	1	0.21	-2.43	0.13	5.36	64	120.04	95	87	66	0	0	2	0
	HONOLULU	80	63	82	58	72	-2	0.18	-0.70	0.18	0.86	34	31.94	154	86	52	0	0	1	0
	KAHULUI	81	62	86	56	72	-1	0.00	-0.76	0.00	3.57	166	21.30	107	89	54	0	0	0	0
	LIHUE	–	64	–	57	–	–	–	–	–	–	–	–	–	90	68	-	-	-	-
ID	BOISE	39	21	41	14	27	-2	0.74	0.44	0.69	1.40	154	11.94	102	87	57	0	7	3	1
	LEWISTON	37	25	44	19	31	-3	0.09	-0.19	0.09	0.72	87	16.57	138	91	63	0	7	1	0
	POCATELLO	30	13	34	3	21	-2	0.33	0.08	0.25	1.18	159	11.57	98	89	50	0	7	2	0
IL	CHICAGO	28	15	46	3	21	-4	0.12	-0.42	0.12	0.86	49	30.80	88	84	65	0	7	1	0
	MOLINE	27	12	47	-1	19	-5	0.12	-0.38	0.12	0.60	38	26.33	68	83	64	0	7	1	0
	PEORIA	28	14	47	0	21	-4	0.09	-0.45	0.09	0.57	33	27.38	77	80	58	0	7	1	0
	QUINCY	28	14	48	1	21	-7	–	–	–	–	–	–	–	90	62	0	7	-	-
	ROCKFORD	25	11	42	-1	18	-4	0.17	-0.28	0.17	1.73	118	42.47	119	88	67	0	7	1	0
	SPRINGFIELD	30	14	49	3	22	-6	0.04	-0.58	0.04	0.26	15	29.79	88	86	58	0	7	1	0
IN	EVANSVILLE	31	21	48	10	26	-10	1.33	0.49	1.12	2.41	91	59.21	132	86	67	0	7	3	1
	FORT WAYNE	27	12	45	-2	19	-8	0.60	-0.05	0.29	2.09	103	42.76	126	93	73	0	7	3	0
	INDIANAPOLIS	28	16	44	3	22	-8	0.55	-0.20	0.46	1.24	53	51.54	132	87	65	0	7	2	0
	SOUTH BEND	27	15	43	3	21	-7	0.11	-0.63	0.08	1.22	53	41.33	108	87	66	0	7	2	0
IA	DES MOINES	25	8	39	-5	17	-8	0.00	-0.30	0.00	0.47	48	34.17	101	86	63	0	7	0	0
	SIOUX CITY	21	4	36	-8	13	-8	0.08	-0.09	0.08	0.15	27	31.79	124	85	67	0	7	1	0
	WATERLOO	23	7	39	-5	15	-3	0.00	-0.28	0.00	0.36	39	29.07	87	90	67	0	7	0	0
KS	CONCORDIA	29	12	38	2	21	-6	0.07	-0.12	0.07	0.07	12	26.20	92	75	52	0	7	1	0
	DODGE CITY	36	13	51	0	25	-7	0.00	-0.14	0.00	0.00	0	32.43	152	71	31	0	7	0	0
	GOODLAND	33	8	50	-6	20	-8	0.04	-0.04	0.04	0.04	14	18.17	106	82	38	0	7	1	0
	TOPEKA	30	13	43	3	22	-8	0.01	-0.30	0.01	0.02	2	36.66	105	90	46	0	7	1	0
	WICHITA	34	16	45	7	25	-6	0.04	-0.25	0.04	0.04	4	26.14	76	77	46	0	7	1	0
KY	BOWLING GREEN	42	23	57	10	32	-5	2.20	1.06	2.20	2.62	73	55.87	113	91	59	0	6	1	1
	LEXINGTON	37	23	61	11	30	-5	1.86	0.96	1.05	3.96	143	52.31	120	86	59	0	5	2	2
	LOUISVILLE	37	23	62	11	30	-6	1.92	1.11	1.49	3.14	124	46.73	108	89	61	0	5	2	1
LA	BATON ROUGE	54	33	73	18	44	-8	0.69	-0.58	0.55	0.79	21	58.41	98	92	47	0	4	2	1
	LAKE CHARLES	53	32	74	21	43	-10	1.15	-0.01	0.76	1.58	46	52.57	99	90	47	0	4	2	1
	NEW ORLEANS	58	37	74	25	48	-7	0.36	-0.96	0.19	0.42	11	47.83	79	84	44	0	2	2	0
	SHREVEPORT	46	26	63	18	36	-11	1.26	0.16	0.71	1.27	39	43.82	91	91	56	0	6	2	2

Based on 1961-90 normals

Weather Data for the Week Ending December 21, 1996

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.05 INCH OR MORE
ME	CARIBOU	36	25	44	9	30	17	0.72	0.00	0.28	2.22	99	37.31	104	95	80	0	5	4	0
	PORTLAND	42	31	53	18	37	12	1.41	0.40	0.84	5.48	172	53.65	124	96	77	0	2	5	2
MD	BALTIMORE	43	30	53	11	37	1	0.29	-0.48	0.18	6.58	285	55.15	139	88	69	0	3	3	0
	SALISBURY	47	34	61	14	40	2	1.00	0.15	0.70	4.86	196	54.61	124	98	56	0	3	4	1
MA	BOSTON	47	36	58	22	41	9	1.66	0.75	1.04	5.18	188	50.36	125	92	68	0	2	4	2
	CHATHAM	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MI	ALPENA	30	15	39	5	22	0	0.43	-0.02	0.34	3.60	257	28.14	100	90	68	0	7	3	0
	DETROIT	30	18	43	7	24	-3	0.85	0.22	0.85	1.65	83	24.76	78	88	69	0	7	1	1
	FLINT	29	16	43	3	22	-4	0.45	-0.01	0.26	1.10	73	24.36	82	89	66	0	7	3	0
	GRAND RAPIDS	28	16	44	4	22	-4	0.15	-0.48	0.08	1.71	85	26.36	75	89	70	0	7	4	0
	HOUGHTON LAKE	28	14	38	3	21	0	0.10	-0.33	0.05	1.69	124	33.47	121	92	68	0	7	3	0
	LANSING	29	17	42	5	23	-2	0.40	-0.05	0.19	1.51	105	27.44	89	92	64	0	7	3	0
	MARQUETTE	25	13	34	1	19	3	1.40	0.82	0.77	2.86	160	40.89	118	92	73	0	7	6	1
	MUSKEGON	30	16	43	-5	23	-5	0.24	-0.44	0.12	1.20	57	25.57	81	93	66	0	7	4	0
	SAULT ST. MARIE	30	18	38	3	24	6	1.02	0.38	0.35	2.48	124	41.45	124	92	76	0	7	6	0
MN	ALEXANDRIA	17	-6	50	-16	6	-6	–	–	–	–	–	–	–	91	73	0	7	-	-
	DULUTH	18	0	28	-10	9	-2	0.03	-0.25	0.02	0.12	14	36.73	121	90	73	0	7	2	0
	INT'L FALLS	14	-6	22	-20	4	-1	0.48	0.27	0.16	0.69	119	27.76	115	87	76	0	7	5	0
	MINNEAPOLIS	21	-2	32	-17	9	-7	0.37	0.14	0.14	0.92	123	25.14	90	87	69	0	7	6	0
	ROCHESTER	19	0	34	-14	9	-7	0.14	-0.08	0.04	0.81	111	29.19	99	88	75	0	7	4	0
MS	GREENWOOD	47	29	72	15	38	-8	–	–	–	–	–	–	–	94	47	0	5	-	-
	JACKSON	49	27	71	15	38	-8	1.89	0.26	1.85	1.71	41	53.45	100	88	51	0	5	3	1
	MERIDIAN	49	26	69	15	38	-10	1.27	-0.14	1.27	1.70	41	53.72	98	89	48	0	5	1	1
MO	CAPE GIRARDEAU	34	20	53	7	27	-8	0.90	-0.10	0.53	2.48	80	41.52	92	92	60	0	6	2	1
	COLUMBIA	31	14	45	1	23	-7	0.14	-0.44	0.14	0.39	21	38.88	102	92	54	0	7	1	0
	KANSAS CITY	29	11	43	0	20	-9	0.01	-0.34	0.01	0.03	3	32.53	87	83	55	0	6	1	0
	SAINT LOUIS	33	19	54	7	26	-7	0.00	-0.67	0.00	0.52	24	42.34	115	80	50	0	7	0	0
	SPRINGFIELD	34	16	47	6	25	-9	0.00	-0.58	0.00	0.40	21	41.72	97	82	53	0	7	0	0
MT	BILLINGS	29	11	39	0	20	-4	0.02	-0.15	0.02	0.06	12	11.87	80	83	56	0	7	1	0
	GLASGOW	19	-2	34	-12	8	-6	0.17	0.09	0.06	0.20	95	10.10	94	92	73	0	7	4	0
	GREAT FALLS	28	7	38	-7	18	-7	0.02	-0.17	0.02	0.17	30	9.10	61	90	59	0	7	1	0
	HAVRE	23	4	37	-9	13	-3	0.02	-0.11	0.02	0.04	11	10.77	98	88	70	0	7	1	0
	HELENA	28	8	38	-3	17	-3	0.01	-0.13	0.01	0.04	10	9.36	82	87	60	0	7	1	0
	KALISPELL	22	7	32	-10	15	-7	0.92	0.52	0.48	1.94	167	24.41	153	90	73	0	7	5	0
	MILES CITY	25	5	38	-3	15	-3	0.08	-0.08	0.06	0.18	39	13.10	96	89	68	0	7	2	0
	MISSOULA	23	10	30	0	17	-6	0.18	-0.10	0.07	1.25	162	15.93	121	94	72	0	7	6	0
NE	GRAND ISLAND	29	9	42	-1	19	-5	0.00	-0.15	0.00	0.03	6	30.99	125	80	51	0	7	0	0
	LINCOLN	28	10	40	-1	19	-6	0.12	-0.07	0.12	0.19	30	35.94	128	84	53	0	7	1	0
	NORFOLK	23	6	37	-2	15	-7	0.00	-0.17	0.00	0.18	34	25.48	102	83	63	0	7	0	0
	NORTH PLATTE	30	7	47	-6	19	-5	0.00	-0.11	0.00	0.00	0	24.75	129	78	40	0	7	0	0
	OMAHA	25	9	37	-2	17	-7	0.00	-0.22	0.00	0.32	44	31.52	108	83	65	0	7	0	0
	SCOTTSBLUFF	31	6	49	-8	19	-7	0.02	-0.12	0.02	0.04	10	16.36	108	80	40	0	7	1	0
	VALENTINE	25	3	41	-14	14	-11	0.00	-0.11	0.00	0.02	5	16.90	76	86	60	0	7	0	0
NV	ELY	41	13	47	0	27	2	0.00	-0.17	0.00	0.07	14	8.95	69	73	23	0	7	0	0
	LAS VEGAS	62	33	60	27	43	-2	0.00	-0.08	0.00	0.00	0	1.80	45	43	17	0	3	0	0
	RENO	48	22	56	16	34	2	0.96	0.73	0.96	1.80	273	10.87	151	82	34	0	6	1	1
	WINNEMUCCA	40	18	46	9	29	0	0.98	0.77	0.89	2.36	386	9.99	125	82	36	0	7	2	1
NH	CONCORD	36	27	42	10	32	9	1.18	0.48	0.79	4.82	210	44.47	125	96	70	0	5	4	1
NJ	ATLANTIC CITY	44	33	57	15	39	4	0.84	0.10	0.58	5.78	257	50.09	127	92	71	0	3	4	1
NM	ALBUQUERQUE	41	19	50	11	30	-4	0.00	-0.11	0.00	0.00	0	9.76	112	46	17	0	7	0	0
	CLOVIS	44	13	59	5	28	-9	–	–	–	–	–	–	–	74	22	0	7	-	-
	ROSWELL	48	15	65	8	32	-8	–	–	–	–	–	–	–	57	19	0	7	-	-
NY	ALBANY	38	26	50	13	34	8	0.19	-0.46	0.13	3.68	180	43.03	121	94	76	0	3	3	0
	BINGHAMTON	33	23	48	7	28	3	0.27	-0.40	0.23	5.61	270	47.15	130	93	73	0	5	2	0
	BUFFALO	37	24	52	10	31	3	0.62	-0.20	0.27	1.83	84	45.77	122	93	63	0	5	4	0
	NEW YORK	45	35	57	22	40	4	0.35	-0.41	0.23	3.94	168	45.22	110	83	63	0	3	3	0
	ROCHESTER	38	25	57	12	32	4	0.15	-0.48	0.09	1.48	77	43.71	140	90	61	0	5	2	0
	SYRACUSE	38	29	56	17	34	6	0.11	-0.59	0.11	3.25	145	38.91	102	83	66	0	3	1	0
NC	ASHEVILLE	42	22	55	7	32	-7	0.35	-0.65	0.28	3.21	106	46.43	86	94	51	0	6	2	0
	CHARLOTTE	47	29	68	16	38	-4	0.37	-0.43	0.27	2.45	105	39.95	96	87	50	0	3	3	0
	GREENSBORO	40	25	48	13	32	-7	0.36	-0.41	0.29	3.24	142	50.16	120	93	68	0	5	3	0
	HATTERAS	49	40	60	28	45	-3	1.60	0.58	1.29	3.99	132	–	–	88	77	0	2	3	1
	NEW BERN	53	39	72	22	46	0	0.66	-0.18	0.36	2.23	92	56.26	104	90	60	0	2	3	0
	RALEIGH	48	30	56	17	38	-4	0.50	-0.24	0.25	2.13	98	56.77	140	96	68	0	5	4	0
	WILMINGTON	52	36	72	22	44	-2	0.06	-0.28	0.47	2.62	98	64.13	115	94	60	0	3	2	0
ND	BISMARCK	16	-6	33	-26	5	-7	0.25	0.14	0.16	0.44	133	20.41	133	86	68	0	7	4	0
	FARGO	12	-4	22	-15	4	-8	0.05	-0.09	0.05	0.19	48	13.07	88	86	76	0	7	1	0
	GRAND FORKS	10	-7	20	-18	2	-7	0.52	0.38	0.21	0.67	163	16.62	92	91	71	0	7	5	0
	WILLISTON	17	-7	34	-25	5	-7	0.80	0.68	0.40	0.92	236	13.20	98	89	72	0	7	5	0
OH	AKRON-CANTON	34	21	48	8	27	-2	0.70	0.04	0.38	3.30	160	41.40	115	90	63	0	6	3	0
	CINCINNATI	35	21	56	9	28	-4	1.04	0.34	1.00	1.96	89	48.93	123	89	61	0	5	3	1
	CLEVELAND	35	21	51	9	28	-2	0.88	0.19	0.52	2.36	109	45.65	128	83	54	0	6	2	1
	COLUMBUS	36	21	51	10	29	-1	1.21	0.54	0.78	2.39	113	46.43	123	83	60	0	5	2	1
	DAYTON	34	20	52	8	27	-4	1.87	1.22	1.12	2.48	121	50.73	142	86	57	0	6	3	2

Based on 1961-90 normals

Weather Data for the Week Ending December 21, 1996

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP, °F		PRECIP.	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.05 INCH OR MORE
	TOLEDO	29	17	48	5	23	-4	0.68	0.02	0.48	1.97	96	26.98	90	88	69	0	7	3	0
	YOUNGSTOWN	33	20	45	8	27	-2	0.22	-0.43	0.12	2.25	110	40.49	111	86	64	0	5	2	0
OK	OKLAHOMA CITY	41	19	66	9	30	-8	0.00	-0.30	0.00	0.00	0	37.90	115	75	38	0	6	0	0
	TULSA	40	21	66	11	31	-7	0.00	-0.46	0.00	0.10	6	31.20	78	74	38	0	6	0	0
OR	ASTORIA	48	34	60	30	41	-1	1.89	-0.49	0.72	8.27	115	60.72	127	89	68	0	2	4	2
	BURNS	33	11	40	0	22	-2	0.16	-0.09	0.12	1.93	230	12.87	133	95	61	0	7	2	0
	MEDFORD	45	27	49	22	36	-1	0.78	0.04	0.57	6.39	279	27.80	155	94	49	0	7	2	1
	PENDLETON	38	26	48	20	32	-2	0.02	-0.34	0.02	1.00	90	13.30	114	89	69	0	6	1	0
	PORTLAND	43	35	49	28	39	-1	0.67	-0.73	0.45	6.18	147	55.12	159	78	55	0	3	3	0
	SALEM	44	32	50	23	38	-1	0.74	-0.80	0.48	7.43	159	59.57	160	91	66	0	3	3	0
PA	ALLENTOWN	40	28	51	11	34	3	0.20	-0.68	0.13	6.34	264	55.50	130	91	67	0	4	4	0
	ERIE	36	22	50	11	29	-1	0.08	-0.72	0.06	0.96	38	47.72	118	90	66	0	5	2	0
	HARRISBURG	–	–	–	–	–	–	0.24	-0.48	–	5.58	247	52.03	132	98	77	-	-	-	-
	PHILADELPHIA	42	33	54	16	38	5	0.35	-0.47	0.19	8.12	325	53.40	119	86	63	0	3	4	0
	PITTSBURGH	36	21	53	8	29	-2	0.05	-0.61	0.04	1.62	82	44.18	123	89	63	0	6	2	0
	SCRANTON	37	27	51	9	32	3	0.19	-0.37	0.12	4.51	256	47.60	134	90	71	0	4	2	0
RI	PROVIDENCE	46	36	57	18	41	9	1.87	0.88	1.17	5.93	197	48.13	109	93	70	0	2	3	2
SC	CHARLESTON	53	33	71	21	43	-7	1.01	0.28	0.65	2.09	100	39.18	78	90	57	0	3	3	1
	COLUMBIA	51	26	65	15	39	-8	0.80	-0.03	0.78	2.11	90	33.03	68	93	49	0	5	2	1
	FLORENCE	51	31	66	19	41	-5	–	–	–	–	–	–	–	96	52	0	3	-	-
	GREENVILLE	45	27	57	13	36	-7	0.58	-0.38	0.40	3.74	134	51.09	102	91	50	0	4	2	0
SD	ABERDEEN	14	-6	34	-16	4	-10	0.12	0.01	0.10	0.54	154	24.80	118	86	75	0	7	2	0
	HURON	17	-3	36	-12	7	-10	0.00	-0.11	0.00	0.20	61	18.43	92	84	75	0	7	0	0
	RAPID CITY	25	3	42	-8	14	-9	0.00	-0.11	0.00	0.99	300	19.97	121	88	66	0	7	0	0
	SIOUX FALLS	17	-4	33	-15	7	-10	0.07	-0.08	0.05	0.67	134	20.02	85	87	72	0	7	2	0
TN	CHATTANOOGA	45	27	61	15	36	-4	0.58	-0.63	0.41	2.13	61	53.39	103	89	48	0	5	2	0
	KNOXVILLE	44	26	57	12	35	-5	0.12	-0.93	0.12	2.37	77	48.12	105	88	53	0	5	1	0
	MEMPHIS	41	28	63	17	34	-9	2.09	0.79	2.09	3.64	91	73.19	145	83	46	0	5	1	1
	NASHVILLE	42	25	65	14	34	-8	2.72	1.68	2.44	3.86	121	48.22	106	87	47	0	5	2	1
TX	ABILENE	48	25	63	11	36	-8	0.00	-0.22	0.00	0.00	0	27.78	115	71	29	0	5	0	0
	AMARILLO	41	15	64	0	28	-8	0.05	-0.03	0.05	0.05	17	20.57	108	70	28	0	6	1	0
	AUSTIN	52	31	78	23	42	-9	1.89	1.48	1.74	2.12	168	28.21	90	77	45	0	4	2	1
	BEAUMONT	53	32	73	22	42	-11	0.75	-0.32	0.39	1.04	32	46.99	84	91	51	0	4	2	0
	BROWNSVILLE	63	42	83	29	52	-9	0.58	0.30	0.48	0.63	75	28.57	109	87	50	0	1	2	0
	CORPUS CHRISTI	59	36	78	21	48	-10	0.39	0.11	0.38	0.42	51	18.33	62	86	48	0	2	2	0
	DEL RIO	53	30	67	20	42	-10	0.31	0.06	0.31	0.32	43	11.26	48	77	33	0	4	1	0
	EL PASO	50	18	62	6	34	-10	0.00	-0.14	0.00	0.00	0	9.11	104	48	15	0	7	0	0
	FORT WORTH	45	28	67	18	36	-8	0.40	-0.07	0.40	0.46	32	30.78	84	87	49	0	4	1	0
	GALVESTON	54	38	71	27	46	-10	2.08	1.26	1.91	2.14	89	31.77	77	89	58	0	2	3	1
	HOUSTON	54	30	72	21	42	-10	3.07	2.00	2.20	3.12	93	38.90	74	88	47	0	4	3	2
	LUBBOCK	46	15	65	5	30	-9	0.02	-0.09	0.02	0.02	5	13.58	74	72	19	0	6	1	0
	MIDLAND	50	20	69	10	35	-10	0.00	-0.11	0.00	0.00	0	9.08	80	74	20	0	6	0	0
	SAN ANGELO	50	25	64	11	37	-8	0.01	-0.16	0.01	0.05	9	22.46	111	72	30	0	5	1	0
	SAN ANTONIO	52	30	68	18	41	-10	0.94	0.63	0.91	1.23	117	16.80	55	79	42	0	4	2	1
	VICTORIA	56	32	75	20	44	-10	1.31	0.65	1.23	1.39	69	25.72	58	89	49	0	3	3	1
	WACO	48	29	67	20	39	-9	1.96	1.55	1.90	1.96	152	26.48	84	84	47	0	4	2	1
	WICHITA FALLS	46	22	63	12	34	-8	0.00	-0.36	0.00	0.00	0	22.83	80	77	33	0	6	0	0
UT	CEDAR CITY	42	17	56	6	30	0	0.00	-0.15	0.00	0.36	73	12.17	108	70	22	0	6	0	0
	SALT LAKE CITY	37	21	46	10	29	1	0.02	-0.30	0.02	1.47	150	17.07	107	64	32	0	6	1	0
VT	BURLINGTON	38	29	50	10	33	12	0.29	-0.24	0.22	3.22	188	41.38	122	91	73	0	4	3	0
VA	NORFOLK	49	36	67	22	42	0	1.28	0.54	1.16	2.90	136	50.91	117	89	72	0	3	4	1
	RICHMOND	45	32	57	16	39	0	0.70	-0.04	0.34	4.25	191	53.50	127	89	59	0	3	4	0
	ROANOKE	41	23	50	11	32	-5	0.40	-0.26	0.38	2.41	118	51.43	128	88	55	0	6	2	0
WA	QUILLAYUTE	45	30	48	25	37	-3	2.30	-1.19	0.91	9.59	91	92.31	92	94	78	0	5	4	3
	SEATTLE-TACOMA	43	33	45	28	38	-2	0.36	-0.97	0.11	3.82	95	44.22	124	93	67	0	3	4	0
	SPOKANE	27	12	33	1	20	-8	0.19	-0.36	0.09	2.18	132	23.15	146	96	82	0	7	3	0
	YAKIMA	28	13	38	6	21	-9	0.02	-0.31	0.01	1.18	124	10.37	138	88	74	0	7	2	0
WV	BECKLEY	38	22	51	8	30	-3	0.02	-0.72	0.02	1.92	86	56.02	140	89	52	0	5	1	0
	CHARLESTON	42	22	60	7	32	-4	0.09	-0.67	0.05	0.58	25	54.32	131	89	43	0	5	3	0
	HUNTINGTON	39	23	56	8	31	-3	0.48	-0.31	0.32	1.28	52	49.05	116	88	52	0	5	2	0
	PARKERSBURG	39	24	54	7	31	-3	0.35	-0.31	0.21	1.86	85	47.95	121	90	50	0	5	4	0
WI	GREEN BAY	26	13	39	3	20	1	0.32	-0.01	0.32	0.54	50	24.04	85	87	66	0	7	1	0
	LACROSSE	25	8	37	-5	17	-2	0.18	-0.10	–	0.96	104	29.47	98	84	60	0	7	-	-
	MADISON	26	12	41	0	19	-2	0.15	-0.21	0.15	0.80	52	29.38	93	85	69	0	7	1	0
	MILWAUKEE	28	14	43	3	21	-2	0.19	-0.33	0.19	0.82	38	21.88	67	82	62	0	7	1	0
	WAUSAU	23	7	36	-7	15	-1	0.55	0.24	0.30	1.01	99	34.52	106	87	59	0	7	5	0
WY	CASPER	24	4	34	-15	14	-9	0.05	-0.09	0.04	0.37	80	10.43	85	85	54	0	7	2	0
	CHEYENNE	26	8	40	-2	17	-10	0.00	-0.08	0.00	0.00	0	15.70	110	74	35	0	7	0	0
	LANDER	25	4	37	-10	15	-5	0.10	-0.03	0.06	0.12	29	8.96	70	80	50	0	7	2	0
	SHERIDAN	27	6	40	-3	17	-5	0.34	0.17	0.16	0.52	104	12.92	90	91	68	0	7	4	0
PR	SAN JUAN	–	73	–	69	–	–	0.29	-0.74	–	1.35	42	65.32	132	94	77	-	-	-	-

Based on 1961-90 normals

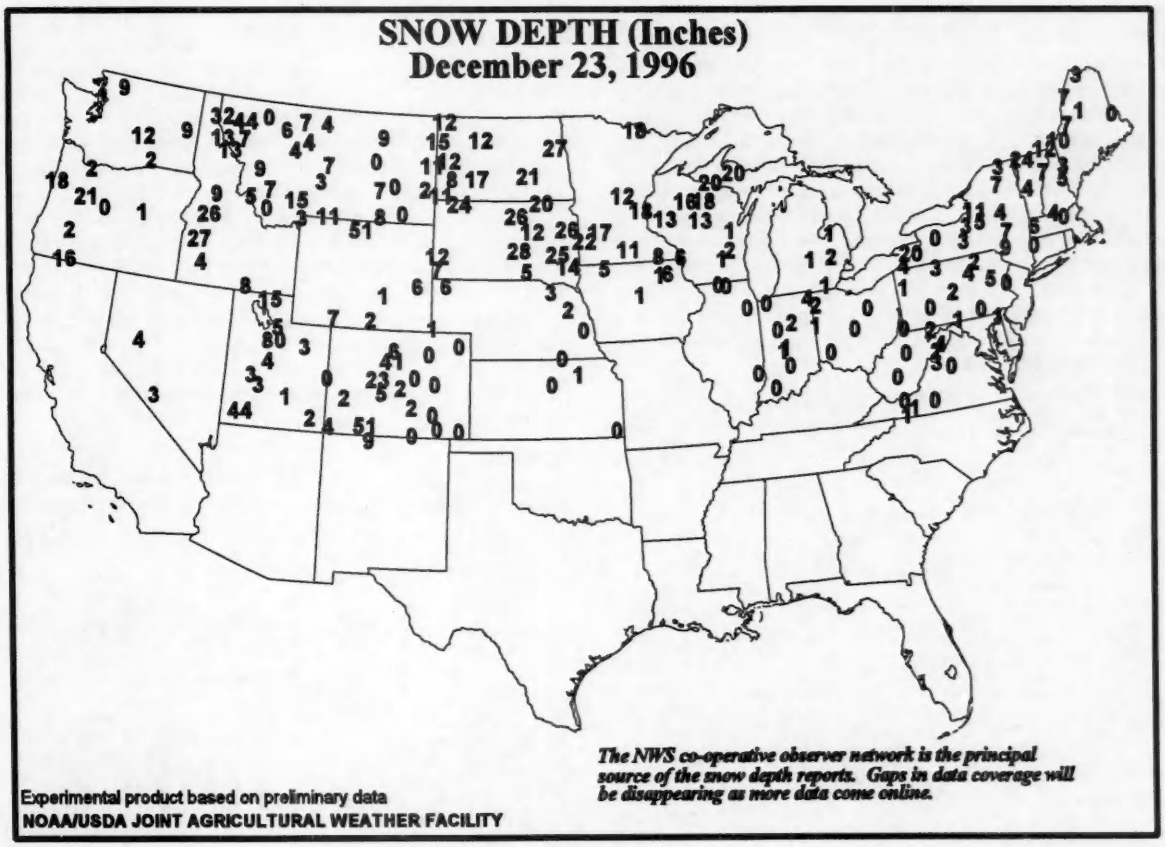
Note: These data are preliminary and subject to change. In the past, precipitation totals from a number of stations have been incomplete.

National Agricultural Summary

December 16 - 22, 1996

HIGHLIGHTS

Low temperatures on December 20 in Florida's citrus belt did not cause any significant damage because wind prevented frost. The cold weather slowed Florida's citrus trees' rate of growth and allowed them to become somewhat dormant, further protecting the trees from future freezes. Most vegetables in south Florida were undamaged by the cold weather due to the short duration of the freezing temperatures, but a hard frost farther north brought an end to harvest activity. Heavy rain returned to California at week's end, causing flooding and disrupting fieldwork. Below-freezing temperatures in parts of south Texas and Louisiana burned some crops' leaves. Sugarcane producers intended to complete the harvest of frost-damaged sugarcane within 2 weeks. A blizzard across the upper Great Plains and Great Lakes region threatened livestock but provided adequate snow cover for small grains. Precipitation early in the week from the Delta to the Tennessee Valley delayed the completion of the cotton harvest. Patchy snowcover in parts of the central Great Plains, combined with very low temperatures, threatened some winter wheat.


SNOW DEPTH (Inches)
December 23, 1996
The NWS co-operative observer network is the principal source of the snow depth reports. Gaps in data coverage will be disappearing as more data come online.
Experimental product based on preliminary data
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

International Weather and Crop Summary

December 15 - 21, 1996

HIGHLIGHTS

FSU WESTERN: The first cold snap of the season pushed southward over winter grain areas.

EUROPE: Unseasonably cold weather continued over winter grain areas in the north, while mild weather prevailed over central and southern areas.

NORTHWESTERN AFRICA: Moderate to heavy rain soaked winter grain areas in Morocco, creating the potential for localized flooding.

AUSTRALIA: Beneficial rain covered the main sorghum, cotton, and sugarcane areas.

SOUTH ASIA: A gradual drying trend aided recovery efforts in recently inundated coastal rice areas of southern India.

SOUTH AFRICA: Drier weather and occasional warmth enhanced corn growth but dried topsoils in the west and resulted in some brief crop stress.

SOUTHEAST ASIA: Inundating rains hit sections of central Vietnam but missed the bulk of the northern and southern rice growing regions where harvesting is underway.

EASTERN ASIA: Dry, warmer-than-normal weather continued in the North China Plain, slowing dormancy in winter wheat.

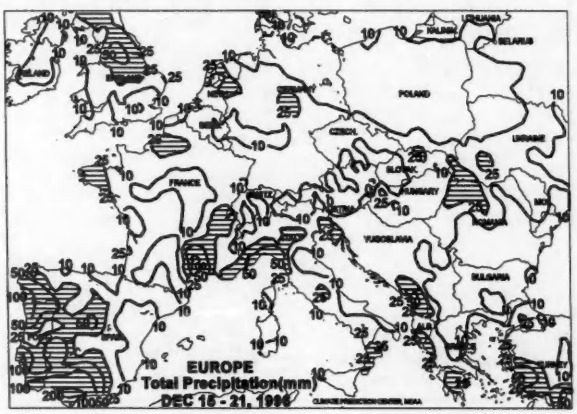
SOUTH AMERICA: Intermittent rain favored summer crop development in Argentina and Brazil, but caused some delays in winter wheat harvesting in Argentina late in the week.

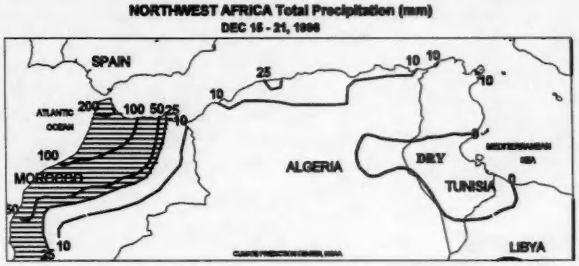
FSU-WESTERN

A cooling trend occurred over most of the region and was accompanied by widespread light to moderate precipitation (5-37 mm). At week's end, the coldest weather so far this season spread south over winter grain areas in northern Russia, Belarus, and the Baltics, where minimum temperatures dropped to as low as -20 degrees C. An adequate snow cover in these areas provided protection from extreme cold. Farther south, rain turned to snow over Ukraine and southern Russia. By week's end, a protective snow cover blanketed most winter grain areas as far south as southern Ukraine and the northern tip of the North Caucasus region in Russia. Weekly temperatures averaged 1 to 4 degrees C below normal in northwestern Russia, Belarus, and the Baltics, and 1 to 4 degrees C above normal over Ukraine and southern Russia.

EUROPE

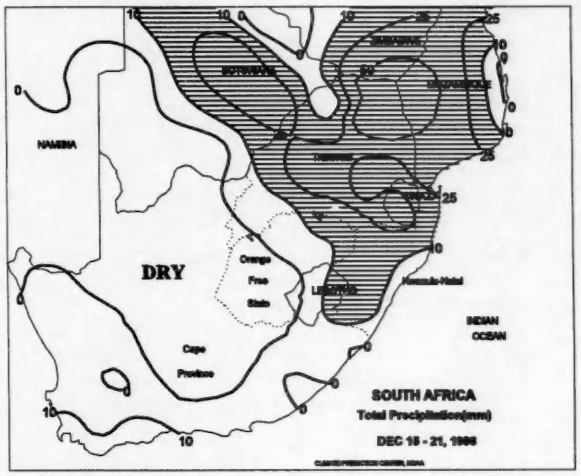
Unseasonably cold weather was accompanied by light rain and snow (3-25 mm) over the Netherlands, northern Germany, and Poland. Although extreme minimum temperatures in these areas ranged from -8 to -12 degrees C, a variable snow cover provided some protection from extreme cold. Farther south, unusually mild weather (weekly temperatures averaging 2-7 degrees C above normal) favored dormant winter grains from northern France eastward through central Europe, and southward into southeastern Europe. Precipitation amounts in these areas ranged from 2 to 31 mm. In Spain, wet weather continued to provide ample moisture for winter grain development. Precipitation amounts generally ranged from 10 to 50 mm with heavy rain (100-210 mm) falling over the extreme southern tip of the country. Rainfall tapered off in northern Italy from the previous week's heavy rain but precipitation amounts ranged from 10 to 50 mm, keeping soils waterlogged.





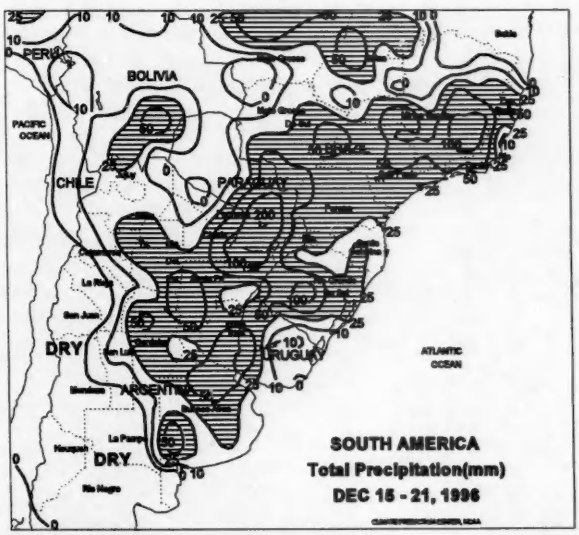
NORTHWESTERN AFRICA

Wet weather continued to provide abundant to excessive moisture for winter grains in Morocco. Precipitation amounts ranged from 50 to 100 mm, with locally heavier rain falling over the extreme northern tip of Morocco. The wet weather likely caused some late-season planting delays and created the potential for localized flooding. Farther east, although light showers in Algeria and Tunisia moistened topsoils for winter grain planting, precipitation accumulations since the beginning of the growing season continued to trend well below normal. Precipitation amounts ranged from 10 to 45 mm in western Algeria, 2 to 22 mm in central and eastern Algeria, and 2 to 10 mm in Tunisia.



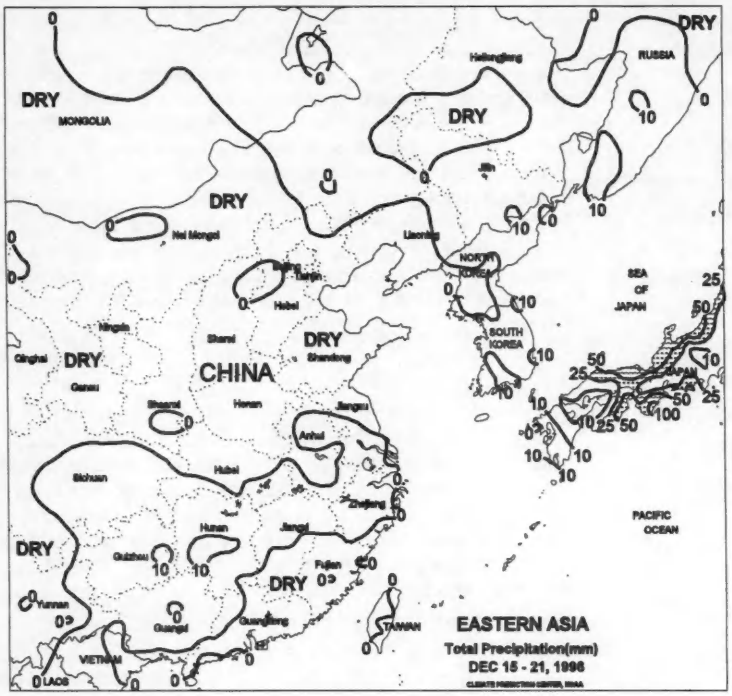
SOUTH AFRICA

Drier weather dominated the corn belt, with no rain falling over western sections of North West Province and Orange Free State. Scattered showers (10-25 mm or more) continued, however, over much of the east. Temperatures averaged 1 to 2 degrees C below normal, but highs in the west reached the middle 30's C early in the week, drying topsoils and stressing vegetative corn. Rainfall was also light (25 mm or less) in most sugarcane areas of Kwazulu-Natal.



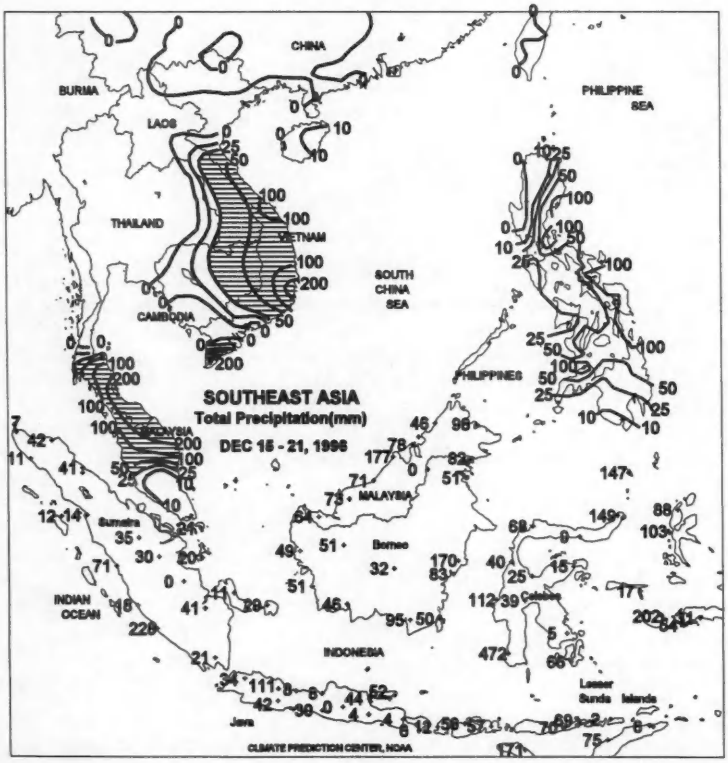
SOUTH AMERICA

In central Argentina, intermittent showers favored summer crop development but caused some delays in winter wheat harvesting late in the week. Precipitation amounts ranged from 25 to 55 mm in northern Buenos Aires, Cordoba, Santa Fe, and Entre Rios. Lesser amounts of rain (16-41 mm) fell over southern Buenos Aires. In southern Brazil, moderate showers (26-69 mm) maintained favorable moisture for soybeans in the early stages of development.



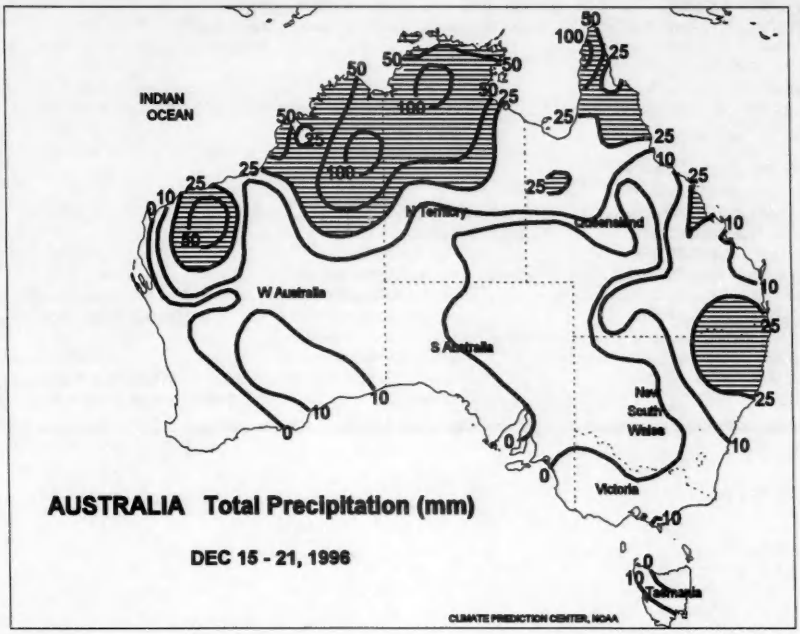
EASTERN ASIA

Dry, warmer-than-normal weather continued across the region, with temperatures averaging 2 to 4 degrees C above normal throughout the main winter wheat areas of the North China Plain. Because of the recent mildness, winter wheat has not yet fully entered dormancy.



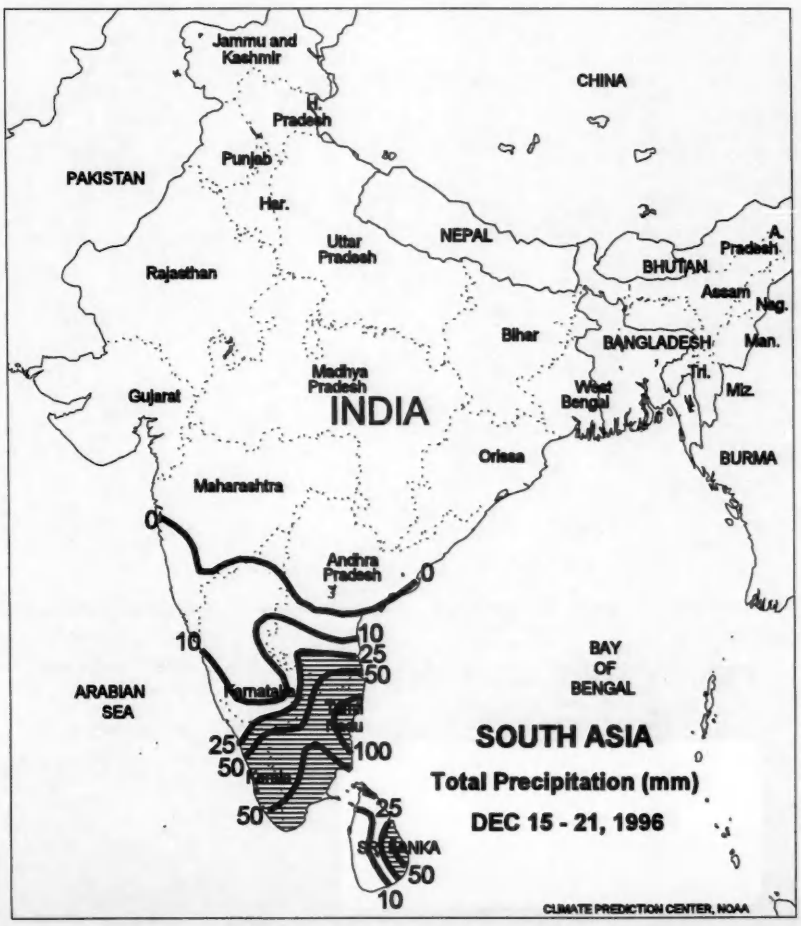
SOUTHEAST ASIA

Heavy rain (50-100 mm, exceeding 200 mm locally) covered a broad stretch of Vietnam's central coast. However, dry weather prevailed in the most intensive rice areas of the north and south, where harvesting is underway. Inundating rain (100-200 mm or more) also continued in eastern sections of peninsular Thailand and Malaysia, worsening flooding. Farther south, scattered showers (25-100 mm or more) continued throughout most of Java. In the Philippines, moderate to heavy rain (50-100 mm or more) continued over the east-central islands, maintaining adequate to excessive moisture available to secondary rice and other crops.



AUSTRALIA

Scattered showers (10-25 mm or more) in east-central Australia maintained generally favorable moisture reserves for sorghum and cotton development. Similar amounts of rain fell in coastal sugarcane areas of Queensland and northern New South Wales. Highs in the low to mid 30's C in the main summer crop areas promoted crop growth without causing undo stress. Late winter wheat harvests progressed across the west and southeast. Farther north, the combination of an active monsoon and tropical cyclone activity resulted in moderate to heavy showers (25-50 mm or more, exceeding 100 mm locally) in largely non-agricultural areas.



SOUTH ASIA

Locally heavy showers (25-50 mm, exceeding 100 mm in isolated locations) lingered early in the week over coastal rice areas of India's southern tip (Tamil Nadu). Drier weather the remainder of the week over the entire region aided recovery efforts in those areas recently hit hard by inundating rain. Elsewhere, seasonable dryness maintained excellent conditions for summer crop dry down and harvesting and winter crop planting.

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